^{74}Co β^-n decay (31.3 ms) 2005Ma59,2010Ho12,2014XuZZ

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 158, 1 (2019)	16-May-2019

Parent: ^{74}Co: E=0; $T_{1/2}$=31.3 ms *15*; Q(β^-n)=9220 *SY*; %β^-n decay=18 *15*

^{74}Co-$T_{1/2}$: From ^{74}Co Adopted Levels.

^{74}Co-Q(β^-n): 9220 *500* (syst,2017Wa10).

^{74}Co-%β^-n decay: β^-n decay of ^{74}Co to ^{73}Ni is indicated by the presence of a 240γ in ^{73}Ni in $\beta\gamma$ coin spectrum (2005Ma59). From the detailed analysis of β(implant) decay curve, 2010Ho12 deduce %β^-n=18 *15*. Others: ≥26 *9* (2005Ma59, from $\beta\gamma$ data and decay scheme analysis), %β^-n=14 *11* (2014XuZZ, preliminary value).

2005Ma59 (also 2005Ma95): ^{74}Co produced by fragmentation of ^{86}Kr beam at 140 MeV/nucleon in a ^{9}Be target, followed by analysis of reaction products using A1900 spectrometer. Measured γ, β, γ(implanted ion) coin, %β^-n.

2010Ho12: ^{9}Be(^{86}Kr,X) E=140 MeV/nucleon; fully-ionized ^{86}Kr beam, A1900 fragment separator at NSCL facility using Bρ-ΔE-Bρ method. Neutrons were detected with NERO detector. Measured β- and βn-correlated events with ion implants.

2014XuZZ: ^{74}Co nuclide produced in ^{9}Be(^{238}U,F) reaction with a $^{238}U^{86+}$ beam of 345 MeV/nucleon produced by the RIKEN accelerator complex. Measured half-life and %β^-n.

Details of the decay scheme are not available.

^{73}Ni Levels

E(level)	J$^\pi$[†]
0	(9/2$^+$)
240	(7/2$^+$)

[†] From Adopted Levels.

γ(^{73}Ni)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
240	240	(7/2$^+$)	0	(9/2$^+$)	E$_\gamma$: from 2005Ma59.

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Decay Scheme